FULL VERSION OF PENDING CLAIMS

Claim 1 (Currently Amended): A baked carbonaceous refractory material, produced by baking in a non-oxidizing atmosphere, containing 50 to 85% by mass of carbon, 5 to 15% by mass of a refractory metal oxide alumina, 5 to 15% by mass of metallic silicon, and 5 to 20% by mass in total of at least one selected from the group consisting of metallic titanium, titanium carbide, titanium nitride and titanium carbonitride TiC_xN_y, where $0 < x, y < 1$ and $x + y = 1$,

where the X-ray diffraction peak intensity ratio of the face (200) of the Ti_3O_5 to the face (111) of titanium carbide is 1% or less.

Claim 2 (Currently Amended): A method for producing a baked carbonaceous refractory material by compounding 50 to 85% by mass of carbonaceous materials, as main raw materials, which are calcined anthracite, calcined coke, natural graphite, artificial graphite or these mixture, with 5 to 15% by mass of a refractory metal oxide alumina, 5 to 15% by mass of metallic silicon and 5 to 20% by mass in total of at least one selected from the group consisting of metallic titanium, titanium carbide, titanium nitride, and titanium carbonitride TiC_xN_y, where $0 < x, y < 1$ and $x + y = 1$, and by adding organic binder to the mixture, then kneading, forming and baking in non-oxidation atmosphere to obtain the carbonaceous refractory materials in the first claim,

where the X-ray diffraction peak intensity ratio of the face (200) of the Ti_3O_5 to the face (111) of titanium carbide is 1% or less.

Claim 3 (Cancelled)

Claim 3 (Currently Amended): The baked carbonaceous refractory material of claim 1, where the refractory metal oxide contains at least one selected from the group consisting of ~~alumina,~~ zircon, magnesia, mullite, spinel and silica.

Claim 4 (Currently Amended): The method of producing the baked carbonaceous refractory material of claim 2, where the refractory metal oxide contains at least one selected from the group consisting of ~~alumina,~~ zircon, magnesia, mullite, spinel and silica.

Claim 6 (Cancelled)

Claim 7 (Currently Amended): The baked carbonaceous refractory material of claim 1,

wherein the 5 to 20% by mass in total of at least one selected from the group consisting of metallic titanium, titanium carbide, titanium nitride and titanium carbonitride TiC_xN_y, where $0 < x, y < 1$ and $x + y = 1$, a predetermined small amount of the titanium dissolves and enables the formation of a high melting point protective layer bound to the carbonaceous refractory material.

Claim 8 (Currently Amended): The method of producing the baked carbonaceous refractory material of claim 2,

wherein the 5 to 20% by mass in total of at least one selected from the group consisting of metallic titanium, titanium carbide, titanium nitride and titanium carbonitride TiC_xN_y, where $0 < x, y < 1$ and $x + y = 1$, a predetermined small amount of the titanium dissolves and enables the formation of a high melting point protective layer ~~is formed in the proximity of~~ on the carbonaceous refractory material surface.

Claim 9 (Currently Amended): ~~An improved~~ A durable carbonaceous refractory material, produced by baking in a non-oxidizing atmosphere, for lining the side walls and

bottom region of a blast furnace hearth, the ~~improved~~ durable carbonaceous refractory material having a reduced carburization dissolution rate and an increased wettability with molten iron to yield excellent corrosion resistance properties, ~~the improvement~~ consisting essentially of:

50 to 85% by mass of carbon;

5 to 15% by mass of a refractory metal oxide~~, the refractory metal oxide contains at least one~~ selected from the group consisting of alumina, zircon, magnesia, mullite, spinel and silica, the refractory metal oxide being present in a sufficient amount to form a residual refractory metal oxide layer ~~in proximity to~~ on the surface of the carbonaceous refractory materials even after dissolution of the carbon aggregates and to stay between the carbonaceous refractory material and molten iron to prevent the contact between the carbonaceous refractory material and the molten iron, thereby reducing the consumption of the carbonaceous refractory materials;

5 to 15% by mass of metallic silicon; and

5 to 20% by mass in total of at least one metallic titanium or titanium compound selected from the group consisting of metallic titanium Ti, titanium carbide TiC, titanium nitride TiN, titanium carbonitride $TiC_{0.7}N_{0.3}$, and titanium carbonitride $TiC_{0.3}N_{0.7}$,

the metallic titanium or titanium compound being present in an amount to sufficiently cover the whole surface of the carbonaceous refractory material which is not sufficiently supplied by the residual refractory metal oxide layer after the dissolution of the carbon aggregate, such that a durable and economical covering layer is formed on the carbonaceous refractory material surface, the metallic titanium or titanium compound allowing improved wettability with molten iron,

wherein the X-ray diffraction peak intensity ratio of the face (200) of the Ti_3O_5 to the face (111) of titanium carbide is 1% or less.

Claim 10 (Currently Amended): The ~~improved~~ durable carbonaceous refractory material of Claim 9,

wherein the particle size of the refractory metal oxide being sized in the range of ~~approximately~~ 2 μm to 3 μm.

Claim 11 (Currently Amended): The ~~improved~~ durable carbonaceous refractory material of Claim 9,

wherein the particle size of the metallic silicon being sized in the range of ~~approximately~~ 1 um to 74 um.

Claim 12 (Currently Amended): The ~~improved~~ durable carbonaceous refractory material of Claim 9,

wherein the particle size of the metallic titanium and titanium compounds ~~being sized approximately~~ is 7 μm.

Claim 13 (New): A durable carbonaceous refractory material, produced by baking in a non-oxidizing atmosphere, for lining the side walls and bottom region of a blast furnace hearth, the ~~improved~~ durable carbonaceous refractory material having a reduced carburization dissolution rate and an increased wettability with molten iron to yield excellent corrosion resistance properties, consisting essentially of:

50 to 85% by mass of carbon;

5 to 15% by mass of a refractory metal oxide selected from the group consisting of alumina, zircon, magnesia, mullite, spinel and silica, the refractory metal oxide being present in a sufficient amount to form a residual refractory metal oxide layer on the surface of the carbonaceous refractory materials even after dissolution of the carbon aggregates and to stay between the carbonaceous refractory material and molten iron to prevent the contact between the carbonaceous refractory material and the molten iron,

thereby reducing the consumption of the carbonaceous refractory materials;

greater than 6 to 15% by mass of metallic silicon; and

5 to 20% by mass in total of at least one metallic titanium or titanium compound selected from the group consisting of metallic titanium Ti, titanium carbide TiC, titanium nitride TiN, titanium carbonitride $TiC_{0.7}N_{0.3}$, and titanium carbonitride $TiC_{0.3}N_{0.7}$,

the metallic titanium or titanium compound being present in an amount to sufficiently cover the whole surface of the carbonaceous refractory material which is not sufficiently supplied by the residual refractory metal oxide layer after the dissolution of the carbon aggregate, such that a durable and economical covering layer is formed, the metallic titanium or titanium compound allowing improved wettability with molten iron,

wherein the X-ray diffraction peak intensity ratio of the face (200) of the Ti_3O_5 to the face (111) of titanium carbide is 1% or less.

Claim 14 (New): A method for producing a baked carbonaceous refractory material by compounding 50 to 85% by mass of carbonaceous materials, as main raw materials, which are calcined anthracite, calcined coke, natural graphite, artificial graphite or these mixture, with 5 to 15% by mass of a refractory metal oxide alumina, greater than 6 to 15% by mass of metallic silicon and 5 to 20% by mass in total of at least one selected from the group consisting of metallic titanium, titanium carbide, titanium nitride, and titanium carbonitride TiC_xN_y, where $0 < x, y < 1$ and $x + y = 1$, and by adding organic binder to the mixture, then kneading, forming and baking in non-oxidation atmosphere to obtain the carbonaceous refractory materials in the first claim,

where the X-ray diffraction peak intensity ratio of the face (200) of the Ti_3O_5 to the face (111) of titanium carbide is 1% or less.